Turning the Tide
on runoff pollution
SC DHEC's Bureau of Water

South Carolina Swimming Advisories Update

By Anne Rone, SC DHEC - Water Quality Outreach Coordinator

It has been a warm summer in South Carolina and many folks have turned to our local rivers and lakes for a chance to escape the stifling heat. But some would-be swimmers have noticed that their favorite swimming hole now sports a sign from the S.C. Department of Health and Environmental Control advising "swimming here may make you sick."

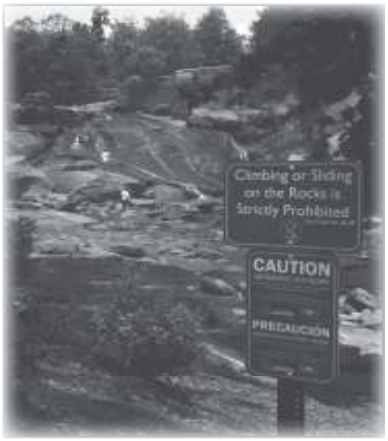
DHEC began posting swimming advisory signs in March of this year. Regional staff identified locations that are heavily used for swimming and readily accessible to the public. Of those locations, signs are posted in places that exceed the South Carolina fecal coliform bacteria standard for swimming. To date, DHEC has placed signs at 20 locations across the state.

Fecal coliform bacteria, found in the intestines of warm-blooded animals, including humans, are not harmful themselves but rather point to the potential presence of harmful pathogens. Since potential disease-causing agents are difficult to list and require specialized equipment and training to test for individually, fecal bacteria are used to indicate the number of harmful agents that may be present in lakes and streams.

The fecal coliform standard for swimming is not absolute as there is always some risk associated with swimming in a natural waterbody, not just ones that exceed the standard. However, advisory signs point to waters where swimming increases the likelihood of illness.

The most common water-related illnesses are gastroenteritis, which often causes nausea and diarrhea, and infections of the skin, ears, nose and throat. If you do swim, you can reduce your risk of illness by not swallowing the water and washing your hands before touching your face or preparing food.

Sources of fecal bacteria include old, leaky or overflowing sewer systems, animal waste from livestock, pets and wildlife and failing septic systems. Stormwater runoff often carries fecal bacteria from these sources into waterways. Therefore, causes of increased runoff such as lack of buffers along stream banks, loss of wetlands and inadequate or absent stormwater facilities also worsen bacteria counts in waterbodies.



Swimming advisory signs are posted around Falls Park in Greenville, SC

Many of these pollution sources are not easily regulated or controlled and reducing their levels in our waters will take time and community involvement. You can help limit pollution in our recreational waters by:

- Complying with sewer and stormwater permits
- Properly maintaining septic and wastewater systems
- Applying best management practices for agriculture

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Inside...

D H E C
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South Carolina Department of Health and Environmental Control

319 Grant Helps Clean Up Pawley's Island

By Victoria Kramer, SC DHEC - NPS Outreach Assistance Coordinator

Plans are in the works that will hopefully reverse the environmental damage in the Litchfield-Pawley's Island estuary. The estuary, a region roughly 5.5 miles long and 0.5 miles wide, is located in the coastal area of the Pee-Dee River Basin in Georgetown County.

Several groups are partnering to restore the watershed including the Santee-Wateree Resource Conservation and Development Council (RCDC), in cooperation with the Georgetown Soil and Water Conservation District and Natural Resources Conservation Service, Georgetown County, and the Coastal Conservation Association, . The partners plan to carry out a fecal coliform Total Maximum Daily Load (TMDL) for the estuary. This plan has been recommended to receive an EPA Section 319 Grant through the S.C. Department of Health and Environmental Control (DHEC). Final approval is currently awaiting revisions.

As early as the 1700's, Pawley's Island was a health haven for people escaping malaria-carrying mosquitoes in the summertime. Today, however, fecal coliform bacteria have affected the island's shellfish beds.

Of the water quality monitoring stations DHEC opearates throughout the Litchfield-Pawley's Island Estuary, eight have been classified as "restricted" because of high fecal coliform counts. Shellfish taken from these beds are considered unsafe for humans to eat since fecal coliform bacteria indicate that disease-causing agents are present. Because the shellfish in this area may be unsafe for humans, it is illegal to collect any shellfish from "restricted" beds. Improving water quality in the estuary, however, may allow the restriction to be removed.

This is not only an environmental problem; it's a community problem. "You know, what really concerns ... the residents there would be the impairment to the shellfish beds," says Roy Todd of the Santee-Wateree RCDC and coordinator of this project.

"It's not that the people really want to go out and harvest the oysters, but they see it as a problem. And believe it or not, it hurts the property values right there."

But the community seems invested in helping out.

"There's a lot of retirees," Todd further explains, "and they're looking for something to do. There's a lot of active groups. They're very interested in the community. I really see the community getting involved."

The Litchfield-Pawley's Island estuary Project is the first coastal TMDL implementation project that includes cleaning up shellfish beds to be recommended for funding through the 319 Grant program. The Santee-Wateree RCDC and its partners' plan calls for creating a detailed database of how the land in the watershed is being used. This database should point out those locations that are contributing the most to the fecal coliform problem – such as streambeds that lack satisfactory buffers, areas where pet waste might be collecting or places with leaking septic systems.

Critical areas would then be selected for cost-sharing and other programs that would encourage people to use best management practices (BMPs) to prevent fecal coliform-polluted runoff. They also plan to develop a public outreach campaign to encourage different audiences to do their part in preventing such pollution.

For more information on this project, TMDLs or the 319 Program, contact Meredith Murphy at (803) 898-4222 or murphymb@dhec.sc.gov.

Congrats to All of S.C.'s New 319 Grant Recipients:

Santee- Wateree RCDC ~ Pee Dee RCDC ~ Reserach and Planning, Inc.

A grant review committee chose proposals from these three organizations and their partners to receive funding under the Section 319 Nonpoint Source (NPS) Grant Program. Grant recipients have planned projects for the Litchfield-Pawley's Island estuary, the Hills Creek watershed and the Bullock Creek watershed.

South Carolina's Section 319 NPS Grant Program is funded through a Section 319 grant from the US Environmental Protection Agency. DHEC uses a portion of these funds to competitively awards grants across the state to groups interested in reducing or preventing NPS water pollution through the completion of TMDLs. These awards pay up to 60 percent of the qualified project costs; applicants provide the rest in non-federal dollars.

S.C. Events

Southeast Stormwater Institute

The Center for Watershed Protection hosts a 3-day interactive learning event to help stormwater professionals develop programs, improve skills and learn about new techniques.

The event will be held October 14-16 at the Coastal Georgia Center in Savannah, Georgia. *Visit www.cwp.org/Calendar/SI08.htm for more information.*

South Carolina Water Resources Conference

Clemson Restoration Institute presents a 2-day forum on water research, policy and management in the state October 14-15 at the Charleston Area Convention Center. *Please see www.clemson.edu/restoration for additional event and registration details.*

Beach Sweep/River Sweep

This year's second Beach Sweep/River Sweep organized by S.C. Sea Grant Consortium and S.C. Department of Natural Resources will take place on Saturday, September 20 from 9 a.m. until 12 p.m.

Join a local team in picking up trash and debris along South Carolina's beaches and waterways. *To volunteer, call (803) 734-9096 or send an email to marshallb@dnr.sc.gov to be paired up with a group in your area.*

For more events, visit the S.C. Coastal Information Network's web site at www.sccoastalinfo.org

Pilot Project Focuses on Lake Wateree Water Quality

During the next six months, University of South Carolina faculty and students will conduct a water-quality pilot study at the 13,250-acre Lake Wateree, located northeast of Columbia.

With funding from two homeowners associations on the east and west sides of the lake, faculty and students from the Arnold School of Public Health and the College of Arts and Sciences are reviving a water-monitoring program that will provide the community groups with a scientific point of view on the lake's water quality. Lake Wateree is considered to be a relatively clean lake, but homeowners are worried about possible effects of development next to and upstream from the lake.

"We're hoping to find ways to engage in more research and conservation efforts at Lake Wateree," said Buz Kloot, associate director of the Earth Sciences and Resources Institute, a unit within the School of the Environment. "In addition to the sampling, we'll provide some comment on what things might be influencing the lake's water quality, whether from upstream sources or from the area around the lake itself."

"The Catawba River has been named the most endangered by the American Rivers Association," said Rick Noble, chair of the Lake Wateree Homeowners Association, which represents lake residents on the Fairfield County shore of Wateree.

"The river is threatened, not dying, but it's at a crossroads. And the Catawba River is the main source of water for Lake Wateree, so we're naturally concerned. Now we're getting back on track with this new water-monitoring project, and we'll have some scientific perspective from the USC folks."

The water-monitoring began this summer and involves sampling at several locations around the lake. Researchers use probes that read water temperature, pH and dissolved oxygen levels, water turbidity, and other measurements.

"If something happened to that water, the value of the property would be jeopardized, and so, too, would the environment for everything downstream of Lake Wateree [which feeds the Wateree River and the Santee Cooper lakes]," said Johnny Deal, chairman of the Wateree homeowners group on the Kershaw County side of the lake. "So much is happening in Charlotte, and we need to keep our finger on it. We need someone to provide credible information."

> ... homeowners are worried about possible effects of development next to and upstream from the lake.

Joining Kloot on the water-monitoring project are Dwayne Porter, an environmental health sciences professor in the Arnold School of Public Health, and Dan Tufford, a biological sciences faculty member.

For more information, Buz Kloot can be reached at **rwkloot@esri.sc.edu** *or visit the Lake Wateree Association's website at* **www.lakewatereeassociation.org.**

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- Maintaining forested zones along waterways, and
- Properly disposing of pet waste.

DHEC also helps reduce polluted runoff by:

- Developing Total Maximum Daily Loads (TMDL's) for bacteria
- Funding restoration activities while implementing TMDL's
- Providing educational materials to the public , and
- Maintaining a permitting, compliance and enforcement program for wastewater and stormwater dischargers.

If you have questions or would like more information, please contact Anne Rone at roneae@dhec.sc.gov or call the Swimming Advisory Hotline: 1-800-360-5655.

Online Now

Podcast Features Smart Growth

The U.S. Environmental Protection Agency office of Wetlands, Oceans and Watersheds recently announced the launch of a new podcast series, *From Gray Funnels to Green Sponges*. The series focuses on the relationship between water quality and the built environment.

The first episode, "Green Streets," kicks off a what EPA hopes to be a series of discussions on smart growth, low impact development and green development issues.

"What I often say is a green street is a street that works with natural conditions and not against it."
- Clark Wilson

The 30-minute interview features senior urban designer Clark Wilson who discusses how communities such as Portland Oregon manage stormwater and preserve water quality through smart street design.

To listen to this podcast online, visit www.epa.gov/owow/podcasts. You'll also find a transcript of the episode as well as additional resources about the projects mentioned in the podcast.

For more information about smart growth and grant opportunities, check out www.epa.gov/smartgrowth.

Turning the Tide

BUREAU OF WATER
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201
EDITOR: ANNE RONE
OFFICE: (803) 898-4187
E-MAIL: RONEAE@DHEC.SC.GOV
RETURN SERVICE REQUESTED